

WE CLAIM:

1. An alcohol sensor utilizing a work function measurement principle comprising at least one gas-sensitive field-effect transistor which comprises at least one substrate having source and drain areas and at least one gate electrode associated with a gas-sensitive layer comprising a polymer or an inorganic metal oxide and wherein the layer is applied to the substrate.
2. The alcohol sensor according to claim 1, wherein the polymers are a polysiloxane or a polysilsesquioxane derivative.
3. The alcohol sensor according to claim 2, wherein the polysilsesquioxane derivative is polycyclopentylsilsesquioxane.
4. The alcohol sensor according to claim 1, wherein the metal oxide is scandium oxide (Sc_2O_3).
5. The alcohol sensor according to claim 1, further comprising an electrical heater.
6. The alcohol sensor according to claim 1, having an operating temperature in the range of between about room temperature and above 60°C .
7. The alcohol sensor according to claim 1, further comprising a plurality of different gas-sensitive layers.
8. The alcohol sensor according to claim 7, wherein a gas-sensitive layer is alcohol-sensitive and moisture-sensitive.

9. The alcohol sensor according to claim 8, wherein the moisture effects of the alcohol-sensitive layer are compensated for by means of the essentially moisture-sensitive layer.

10. The alcohol sensor according to claim 1, further comprising a gas-insensitive transistor for compensating for temperature effects.

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